

PUBLIC HEALTH
(11 & 12 Vict. C. 64)

REPORT
TO THE
GENERAL BOARD OF

OF A
PRELIMINARY INQUIRY
INTO THE SEWERAGE, DRAINAGE,
WATER, AND THE SANITARY
OF THE INHABITANTS
OF THE HAMLET OF

BRENTWOOD

IN THE PARISH OF SOUTH WEALD, IN
ESSEX.

By ALFRED L. DICKENS, Esq.
SUPERINTENDING INSPECTOR.



LONDON:
PRINTED BY GEORGE E. FYRE AND W.
PLATE TO THE QUEEN'S MOST EXCELLENT
FOR HER MAJESTY'S STATIONERY
1877.

R E P O R T

TO THE

GENERAL BOARD OF HEALTH

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WATER, AND THE SANITARY CONDITION
OF THE INHABITANTS

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SUPERINTENDING INSPECTOR.



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1857.

NOTIFICATION.

THE General Board of Health hereby give Notice, in terms of section 9 of the Public Health Act, that on or before the 12th day of November, being a period of not less than one month from the date of the publication and deposit hereof, written statements may be forwarded to the Board with respect to any matter contained in or omitted from the accompanying Report on a Preliminary Inquiry into the Sewerage, Drainage, and Supply of Water, and the Sanitary Condition of the Inhabitants of the Hamlet of BRENTWOOD, in the Parish of South Weald, in the County of Essex; or with respect to any amendment to be proposed thereto.

By order of the Board,
T. TAYLOR, *Secretary.*

Whitehall, Oct. 8, 1857.

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PUBLIC HEALTH ACT (11 & 12 Vict. c. 63.)

Report to the President of the General Board of Health on a Preliminary Inquiry into the Sewerage, Drainage, and Supply of Water, and the Sanitary Condition of the Inhabitants of the Hamlet of BRENTWOOD, in the Parish of South Weald, in the County of Essex. By ALFRED L. DICKENS, Esq., Civil Engineer, Superintending Inspector.

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SIR,

Whitehall, July 29, 1857.

On the 9th of June last a petition was received from the General Board of Health from the hamlet of Brentwood, most respectably signed by 44 out of a total certified number of 262 ratepayers, praying for a preliminary inquiry under the Public Health Act into the sanitary condition, &c., of that hamlet. I received your instructions to hold an inquiry accordingly, and issued the ordinary notices required by the Act of Parliament. I fixed the White Hart Inn at Brentwood, on the 22nd day of July last, at 12 o'clock at noon, as the place and time for the same. My intention of holding the inquiry was advertised in the *Essex Standard* and *Eastern Counties Advertiser*, dated June 24th, and in the *Chelmsford Chronicle*, dated June 26th. Copies of the same notice were also affixed at such places where notices relating to public matters within the hamlet of Brentwood are usually posted.

The following gentlemen, ratepayers within the hamlet of Brentwood, were present at the meeting in the earlier part of the day, as well as at an adjourned meeting in the afternoon:—Dr. Butler, Dr. Earle, Messrs. Preston, Winter, Geo. Winter, Parker, Lewis, Moule, Brown, Gallicker, Bulwer, Hill, Hawes, Wright, Danes, Offin, Proud, Bacon, Skiggs, Norris, &c., &c.

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Some conversation arose as to a memorial that had been placed in the hands of the Messrs. Winter, praying that the inquiry might be postponed until the Public Health Act Amendment Bill had been passed. I explained that it was very probable no Amendment Act would be passed in the present Session of Parliament, and I urged on the meeting the desirability of proceeding with the inquiry in the ordinary course. I further explained that any parties would have an opportunity, after my report was published, of making statements to the General Board thereon. Later in the day the memorial I have mentioned was withdrawn.

Some misapprehension having arisen as to the nature of the Public Health Act and the powers of the General Board of Health over Local Boards formed under that statute, I explained very fully the general provisions of the Act. I informed the meeting that a Local Board of Health was chosen by the ratepayers themselves, the qualification for membership being determined by the General Board. That, when formed, they appointed their own officers and executed works or not, just as they pleased. That they could spend just as much or as little as they liked. That in the event of their desiring to borrow money on mortgage of the rates for the execution of works of a permanent character, they could do so for a term not exceeding thirty years, the consent of the General Board being previously obtained. That the General Board, in justice to the ratepayers whose money was to be expended by the Local Board, in such cases satisfied themselves that the works proposed to be carried out were of a sufficiently permanent character to last the term over which it was proposed to extend the repayment of the money borrowed. That the Local Board, if they chose, could execute works quite irrespective of the General Board, and levy rates for the payment of the same; but that the General Board were on all occasions desirous of assisting Local Boards by their advice and assistance on all questions arising under the operation of the Act.

The evidence given at the inquiry was to the following effect :—

THE SEWERAGE, DRAINAGE, AND SUPPLY OF WATER.

There is no regular system of drainage. In some places sewers have been recently constructed under the powers of the Nuisances Removal Act. They have been laid out irre-

spective of any general system. Houses drain into these sewers. There is a covered sewer belonging to the turnpike trust into which also some houses drain. The gullies communicating with these sewers are generally untrapped, and the smell from them is at times very bad. The provision for surface drainage is only partial.

The water supply is derived from wells and pumps. There are about 100 private pumps and two public pumps in the hamlet. One of the public pumps is situate in Warley-lane, the other opposite the Shoreditch schools. Water is obtained at a depth of about 40 feet, but the wells at this depth are liable to fail in very dry seasons. The wells are dug through gravel and dry sand into a running sand, and at the depth named about four feet of water is obtained.

Mr. *James Winter* supplies about six houses from his own pump, at a rental of four shillings a year each.

Mr. *Moule*, of the White Hart Inn, says,—

“That his pump is so much used by the neighbouring householders at night, that he is obliged occasionally to lock it up, or the well would be pumped dry.”

Mr. *Wright* bored to a depth of 150 feet without obtaining any quantity of water.

Dr. *Butler* says,—

“There can be no doubt, in his opinion, that Brentwood is badly supplied with water;”

and this opinion was generally coincided in by the meeting.

Mr. *Bacon*, the inspector of nuisances under the Nuisances Removal Act, says,—

“There is one well in the back street, but the pump has been out of repair for the last five or six years. This well and pump, which belong to the lord of the manor, used to be a source of public supply, but it is now of no use, although Mr. *Proud* continues to pay 2s. 6d. per annum for the privilege of using it.”

THE STATE OF THE BURIAL GROUNDS.

There are three burial grounds within the hamlet of Brentwood. One for the Roman Catholics, one for the Independents, and one for the Church of England. The latter is quite full, but has not yet been officially closed. The condition of the two first-named calls for no especial remark. There is still room in them, and they are not very objectionably encroached on by houses.

THE NUMBER AND SANITARY CONDITION OF THE INHABITANTS.

The following return has been supplied by the Registrar-General:—

RETURN of the NUMBER of DEATHS in the Hamlet of BRENTWOOD, in the Parish of South Weald, in the County of Essex, in the Seven Years ending with 1856, and the RATE of MORTALITY per 1,000 of the Population.

HAMLET.	Deaths registered in the Year ending 31st December							Total in 7 Years
	1850	1851	1852	1853	1854	1855	1856	
Brentwood -	31	22	35	49	70	29	37	273

Population in 1851 - - 2,205

Average annual mortality to }
1,000 persons living - - } 17.7

(Signed) GEORGE GRAHAM,
Registrar-General.

Dr. Butler says,—

“The general class of diseases prevailing here are of an inflammatory cast. Last year there was a good deal of fever, but the mortality was not high. In 1854 small pox was very prevalent. Absolute cholera was only fatal in one case. Small pox was principally fatal amongst the lower classes. The poorer class of dwellings are in a very bad state, and overcrowding is very common. The cottages generally are in a bad sanitary state.”

It will be observed on reference to the table of mortality that the deaths in 1854 were exactly double those registered in 1852, and nearly double those registered in 1856, and more than three times the number registered in 1851.

It would seem, therefore, that there are some local causes in existence which assist the spread of disease in unhealthy seasons. These causes may be fairly traced to the imperfect sanitary arrangements of the hamlet, and to the wretched state of many of the poorer dwellings.

LOCAL ACTS OF PARLIAMENT.

There are no Local Acts of Parliament in force within the hamlet of Brentwood for the management, improvement, or government of the town.

A gas company has been formed under the Joint Stock Company's Act. The capital subscribed is 7,000*l*. The

charge to private consumers is 6s. 8d. per 1,000 feet. There are in all thirty public lamps, which cost 3l. per annum for lighting. They are lighted from 1st of September to 1st of May, from sunset to 12 o'clock. Regular gas inspectors are appointed by the company for the purpose of attending to complaints, &c.

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THE NATURAL DRAINAGE AREAS.

The whole area of the hamlet is 370 acres. The town is situate on the top of the hill, and the natural fall is from the town on either side into a small stream called the "Ingrebourne."

THE EXISTING BOUNDARIES.

Brentwood is a hamlet in the parish of South Weald, and has a known and defined boundary in accordance with the interpretation of the Public Health Act. It has before been stated the petition for the inquiry emanated from the hamlet of Brentwood, and was signed by more than one-tenth of the whole number of ratepayers.

THE BOUNDARIES WHICH MAY BE MOST ADVANTAGEOUSLY ADOPTED FOR THE PURPOSES OF THE PUBLIC HEALTH ACT.

There was but one opinion expressed at the meeting as to the boundaries to be adopted in the event of the Public Health Act being applied, and that was, that the whole hamlet should form the district of the Local Board. My own opinion is quite in accordance with this. It will be seen on reference to the table of rates, &c., that the rateable value of the whole hamlet is 6,857l. 15s., while the land only is rated at 891l. 15s., a very fair proportion to be included within the area of the Local Board's jurisdiction.

HAMLET OF BRENTWOOD.

Return of Rates, &c.

1852.	April 8th	-	Poor Rate at	1s. in the Pound.
	August 28th	-	"	1s. "
1853.	January 8th	-	"	1s. 6d. "
	May 14th	-	"	1s. "
	October 13th	-	"	1s. "
1854.	February 9th	-	"	1s. "
	May 20th.	-	"	1s. "
	September 2nd	-	"	1s. 6d. "

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1855.	January 13th -	„	2s. in the Pound.
	May 12th -	„	1s. „
	August 30th -	„	1s. „
1856.	January 5th -	„	1s. „
	August 23rd -	„	1s. „
1857.	February 21st	„	1s. „
	June 13th -	„	1s. 6d. „

1853.	February 24th	Highway Rate at 6d. in the Pound.
1854.	July 8th -	„ 9d. „
1855.	November 24th	„ 9d. „
1857.	May 2nd	„ 9d. „

1853.	March 24th	Gas Rate at 6d. in the Pound.
1854.	June 8th -	„ 3d. „
1855.	April 7th -	„ 6d. „
1856.	January 10th	„ 6d. „
1857.	January 22nd	„ 6d. „

Rateable value of the whole hamlet 6,857*l.* 15*s.*

Rateable value of land only, 891*l.* 15*s.*

Acreage of the hamlet 370 acres.

Houses rated.

At and under	5 <i>l.</i>	-	-	-	-	259
5 <i>l.</i>	„	10 <i>l.</i>	-	-	-	68
10 <i>l.</i>	„	15 <i>l.</i>	-	-	-	62
15 <i>l.</i>	„	20 <i>l.</i>	-	-	-	36
20 <i>l.</i>	„	30 <i>l.</i>	-	-	-	43
30 <i>l.</i>	„	40 <i>l.</i>	-	-	-	21
40 <i>l.</i>	and upwards.	-	-	-	-	13

GENERAL DESCRIPTION OF THE PRESENT STATE OF
BRENTWOOD.

Brentwood is a small town, situate about 18 miles from London, on the road to Norwich. The Eastern Counties Railway passes close by it, and there is a station for the accommodation of the town and district. The main part of the town consists of one long straight street, which is built on either side of the turnpike road.

The town is situate on the summit of a hill, the fall being in each direction into a valley, drained by a brook or stream called the "Ingrebourne." This stream falls into the Thames near Rainham.

Although the hamlet of Brentwood itself consisted in 1851 only of 2,205 inhabitants, there is a large population immediately adjacent to it. The county lunatic asylum, with a population of about 400; the Warley barracks, with a population of from 1,000 to 1,200; the Shoreditch schools, with a population of about 400; and the grammar school, with about 100 scholars, are all close to the town.

The houses are generally built of brick, although a few are of wood. The want of proper paving, kerbing, and channelling is very apparent. There is a barrel drain along part of the town portion of the turnpike road which takes the surface water. It is not deep enough to drain the cellars.

The water supply, to the cottages more especially, is often of a very inconvenient and insufficient character, while the accommodation for decency and comfort is of a very limited kind. Near a house belonging to Mrs. Jocelyn there is a very filthy and offensive drain, which must be a great nuisance at times. This drain receives the accumulation from some cottages near, as well as the drainage from the house.

The general system adopted at the more recently erected dwellings, is to drain a number of them into one large common cesspool, which also receives the refuse from wash-house drains. These drains are stated to be untrapped: if this is the case, the houses must be constantly exposed to the most unhealthy influences.

The cesspool system appears to be general at the east end of the town, but there are instances of drains receiving the refuse from waterclosets, &c., emptying directly into an open ditch which flows along a field belonging to Mr. Lewis. This ditch empties into a considerable pond in the same field, close by the highway. It is in a very bad state, and the smell almost unbearable. The water is quite unfit for the cattle to drink. The overflow from this ditch passes alongside the public highway for some distance, and receives the drainage from some more houses. It is covered for a short distance across the highway; and then flows along the fields to the Ingrebourne.

Moore's Place.—These are some decent cottages which drain into cesspools.

National Schools.—The privies here overflow on to the open ground close by, and the refuse flows into a ditch, which at the present time is full of very offensive matter, and smells very badly.

There are only two pumps near here, which are the source of supply for a number of houses.

Swan Yard. The whole drainage of this place is into an open pond. There is evidence of there having been a very large accumulation of foul refuse here, although it has recently been emptied. The smell, even under these circumstances, is very sickening.

Stone Yard.—There is apparently no drainage here at all. The only water supply is from a well some distance off. There is abundant evidence in the appearance of this place of the desirability of the establishment of some local governing body to regulate and improve the sanitary condition of the hamlet. The cottages are dilapidated and undrained. There are vast accumulations of offensive refuse and filth in front, and the yards at the back are miserably dirty. There are some privies which empty into cesspools stated to be as much as 15 feet deep, the overflow from which is partly into the fields and partly into the sewer belonging to the turnpike trust. Not far from this some houses drain into an open ditch in a field and cause a very intolerable nuisance.

West End, near Mr. *Winter's.*—There is a covered drain here, which used to be an open ditch. It receives the drainage from some water-closets, and empties into an open ditch in a field not far off. This open ditch is very filthy, and the smell from it almost unbearable. This drain takes a considerable part of the main sewerage of the lower part of the town, with the exception of that which finds its way into the drain I have mentioned as belonging to the turnpike trust.

One of the public pumps (Warley Lane) is in this part of the town, but it is very inconveniently placed, and a great deal of time must necessarily be wasted in fetching water from it.

Barnard's Road.—There is a very foul and offensive open ditch filled with stinking refuse here. Mr. *Winter* states that it was to have been covered in under the Nuisances Removal Act, but proceedings were suspended pending the result of my inquiry.

I may here mention that those so-called improvements which have been already effected in Brentwood under the provisions of the Nuisances Removal Act, as well as those projected, have been laid out without the slightest reference to any general system.

Mr. *Hill's Houses*.—From the want of proper drainage here the privies actually overflow on to the public road. This nuisance was so bad some little time before my visit that it was publicly “cried.”

There are some cesspools which are stated to be 25 to 30 feet deep, and which have never been emptied since they were made. It may easily be imagined that these places must be a monstrous evil, and one that cannot too soon be got rid of.

It is unnecessary to note further any particular localities, as the above extracts from my note-book afford a fair specimen of the state of the worst parts of Brentwood.

Many of the cottages are very confined at the back, with piggeries in close proximity; and as there is no system of drainage or pavement, the surface near and around the houses is in a very filthy state, and as offensive to sight as smell. The slops and house refuse are thrown on to the surface, and there remain in holes to poison the air around, or are trodden up into mud and filth. Many of the privies are in very indecent situations, and cannot fail to foster dirty and indecent habits.

The general features of the district are decidedly favourable for works of improvement. Ample fall is to be obtained for drainage.

It is my opinion that the present state of the hamlet of Brentwood calls for immediate improvement, and that the execution of the following works can be more readily, economically, and satisfactorily carried out under the provisions of the Public Health Act, 1848, than by any other means, viz., an improved pavement to all courts, yards, and alleys; proper kerbing and channelling to all the public street footpaths; a judicious and complete system of public and private drainage, and a better system of cottage privies; and an improved water supply.

GENERAL REMARKS.

As I have before remarked, it rests entirely with the Local Board elected under the Public Health Act, to determine what works shall be constructed under their direction. My advice to the Local Board of Brentwood, should one be formed, would be, that they should call in some gentlemen of known experience in such matters, to make an accurate survey of the district. That on that survey should be laid down a complete system of public and private drainage for the whole town portion. The Local

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Board would then be in a position to determine whether they should carry out at once the whole of the main sewerage, or whether they should do so gradually, commencing with those parts most requiring improvement. The advantage of having a system laid down is obvious. Supposing the Local Board determine to carry out the drainage gradually, each section they might execute would be part of the whole, and when all was completed would form one general system, with properly adjusted sizes and inclinations. It would be for the Local Board to judge, when they had proper plans and estimates before them, how far it would be desirable to execute a complete system of water-works. They would have the alternative of improving the present supply by the establishment of more convenient public wells and pumps, which would be placed under the charge of their own officers, if they considered that the cost for perfect works amounted to a larger outlay than they would be justified in incurring. Without more perfect data than I have before me, it is somewhat difficult to form a decided opinion as to the probable actual cost of combined works of drainage and water supply for Brentwood; but, judging from other places of a somewhat similar character, and anticipating no serious contingencies arising in the execution of the works, I am of opinion that a shilling rate would go far towards, if not altogether pay for, the works of public improvement. This is assuming that money is borrowed on mortgage of the rates, the repayment being distributed over a term of years. Money may also be borrowed for paving, &c. But, as I have already stated, it rests entirely with the Local Board to regulate the expenditure.

Having thus generally described the existing state of Brentwood, and the works of improvement desirable to be carried out, it will be as well, perhaps, if I point out to those ratepayers interested in the question, the powers conferred on Local Boards formed under the provisions of the Public Health Act, 1848.

After the Act has been applied, a Local Board is formed, which has power to appoint certain officers, such as clerk, surveyor, collector, &c. The latter office may, of course, be filled by the individual already acting in that capacity.

The Local Board may make all necessary sewers, order the construction of proper water-closets, house drains, privies, and ashpits; cleanse streets, drain or cause to be drained offensive ponds; make byelaws for the regulation of slaughter-houses, pave and repair highways, &c., &c., &c.

They may levy general district, special district, and private improvement rates. General district rates are levied for the payment of the cost of the application of the Act, the salaries of officers, and for the cost of surveys or maps, &c. Special district rates are levied for the purpose of paying for works, &c. Private improvement rates are levied for the construction and laying of house drains; for constructing or putting in order water-closets, privies, or ashpits for private houses; for draining, cleansing, covering, or filling up offensive ditches, &c., situated on the premises of private individuals; for putting in order streets not dedicated to the public; for providing apparatus for receiving supplies of water for domestic use in certain cases, &c. The property assessable for special and general district rates is the same as that assessable for the poor rates. The occupier of any land used as arable, meadow, or pasture ground only, or as woodlands, market gardens, or nursery grounds, and the occupier of any land covered with water, or used only as a canal, a towing path for the same, or as a railway constructed under the powers of an Act of Parliament for public conveyance, is assessable in the proportion of one-fourth part the annual value of such property.

By consent of the General Board of Health, money for the execution of works of a permanent nature can be borrowed, and its repayment spread over a period not exceeding 30 years.

Under no circumstances can a Local Board borrow to the extent of more than one year's rateable value.

The cost of applying the Public Health Act to the hamlet of Brentwood, and of conferring these useful powers on the local governing body, would not in all probability exceed from 15% to 20%.

Having given the whole circumstances of the case my fullest consideration, I am induced to offer the following

RECOMMENDATIONS :

1. That the Public Health Act, 1848, be forthwith applied to the hamlet of Brentwood, in the parish of South Weald, in the county of Essex.

2. That the Local Board of Health, to be elected under the said Public Health Act, shall consist of 12 persons.

3. That every person at the time of his election as member of the said Local Board, and so long as he shall continue in office by virtue of such election, shall be resident, as in the said Public Health Act, 1848, is required,

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and be seised and possessed of real or personal estate, or both, to the value or amount of not less than 800*l.*; or shall be so resident and rated to the relief of the poor in the said hamlet upon an annual value of not less than 20*l.*

I am, Sir,

Your obedient servant,

ALFRED L. DICKENS,

Superintending Inspector.

*The Right Honourable
the President of the
General Board of Health,
&c. &c. &c.*

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